What is claimed is:

1. A method for controlling virtual memory in a computer system with a plurality of process contexts, the system having a mapping structure for address translations, the structure including a plurality of translation entries, the method comprising:

setting a translation entry mapping indicator for each entry associated with a given context to the value of a mapping indicator for the given context and setting a validity flag for each entry associated with the given context; and

demapping the given context by changing the mapping indicator for the given context.

2. A method according to claim 1, wherein demapping the given context further includes changing a cleanup indicator for the given context.

3. A method according to claim 2, wherein the cleanup indicator for each context, the mapping indicator for each context, the mapping indicator for each translation entry and the validity flag for each translation entry are each a single bit.

4. A method according to claim 2, wherein the mapping structure is a translation lookaside buffer.

5. A method according to claim 2, wherein the mapping structure is a table.

6. A method according to claim 2, wherein the mapping structure is a linked list.

7. A method according to claim 1, wherein demapping a given context further includes:

clearing the validity flag for a given translation entry when the translation entry mapping indicator for the given translation entry does not match the mapping indicator for the context associated with the entry.

8. A method according to claim 1 further including:

reading a given translation entry and accessing a physical

memory location based at least on the validity flag for the given translation entry and whether the translation entry mapping indicator value for the given translation entry equals the mapping indicator value for the context associated with the entry.

9. A method for controlling virtual memory in a computer system with a plurality of process contexts, the contexts each having a mapping indicator and a cleanup indicator, the system having a mapping structure for address translations, the structure including a plurality of translation entries, the translation entries each containing a validity flag and a mapping indicator, the entries each associated with one of the plurality of contexts, the method comprising:

reading the cleanup indicator for each context to identify a group of contexts, the cleanup indicator for each context in the group of contexts indicating that a context version has been demapped;

then scanning the mapping structure and clearing the validity flag for each entry in which the mapping indicator for the associated context does not equal the mapping indicator for the entry; and

then setting the cleanup indicator for each context version in the group of contexts to indicate that the context version is available for mapping.

10. A memory management device for a computer system including:

a plurality of process contexts including a mapping indicator and a cleanup indicator for each context;

a mapping structure, the structure including a plurality of translation entries, the translation entries each containing a validity flag and a mapping indicator for the entry;

logic that sets the translation entry mapping indicator for each entry associated with a given context to the value of the mapping indicator for the given context and sets the validity flag for the

entry; and

logic that demaps the given context by changing the mapping indicator for the given context.

11. A memory management device as in claim 10, wherein the logic that demaps the given context further includes logic that changes the cleanup indicator for the given context.

12. A memory management device as in claim 10 wherein the mapping structure is a translation lookaside buffer.

13. A memory management device as in claim 10 wherein the mapping structure is a table.

14. A memory management device as in claim 10 wherein the mapping structure is a linked list.

15. A memory management device as in claim 10, further including:

logic that clears the validity flag for a given translation entry when the translation entry mapping indicator for the given translation entry does not match the mapping indicator for the context associated with the entry, when at least one cleanup indicator indicates its associated context has been demapped.

16. A computer program product for use on a computer system for controlling virtual memory, the system including a plurality of process contexts, each process context including a mapping indicator and a cleanup indicator, the system further including a mapping structure for address translations, the structure including a plurality of translation entries, the translation entries each including a validity flag and a mapping indicator, the computer program product comprising a computer usable medium having computer readable program code thereon, the computer readable program code including program code for:

setting the translation entry mapping indicator for each entry associated with a given context to the value of the mapping indicator for the given context;

setting the validity flag for each entry associated with the given context; and

demapping the given context by changing the mapping indicator for the given context.

17. A computer program product according to claim 16, wherein the program code for demapping the given context further includes code for changing the cleanup indicator for the given context.

18. A computer program product according to claim 17, the computer readable program code further including program code for:

reading the cleanup indicator for each context to identify a group of contexts, the cleanup indicator for each context in the group of contexts indicating that a context version has been demapped;

then scanning the mapping structure and clearing the validity flag for each entry in which the mapping indicator for the associated context does not equal the mapping indicator for the entry; and

then setting the cleanup indicator for each context version in the group of contexts to indicate that the context version is available for mapping.